Conclusion.– A clinical trial, a comparative of superiority, monocentric, in two parallel groups is in included phase. Objective: show the superiority of an approach to prevention of shoulder pain of patients post-stroke, in stroke unit.

Further reading

Bender L, Mkenna K. Hemiplegic shoulder pain: defining the problem and its management. Disabil Rehabil 2001;23(16):698–705.
Turner-Stokes L, Jackson D. Shoulder pain after stroke: a review of the evidence base to inform the development of an integrated care pathway. Clin Rehabil 2002;16(3):276–98.
Lindgren I, Jo¨nsson A-C, Norrving B, Lindgren A. Shoulder pain after stroke: a prospective population-based study. Stroke 2007;38:343–8.

http://dx.doi.org/10.1016/j.rehab.2012.07.338

CO48-004-e

Bimanual coupling in stroke patients and its applications for rehabilitation in occupational therapy

B. Guerin [a,*], R. Sleimen Malkoum [b,*], L. Thefenne [a]
[a] *HIA Laveran, boulevard Laveran, BP60149, 13384 Marseille, France*
[b] *UMR 7287, institut des sciences du mouvement, E.-J.-Marey, CNRS et Aix-Marseille université, Marseille, France*
**Corresponding authors.*
E-mail address: beneguerin@yahoo.fr.

Keywords: Stroke; Bimanual coupling; Rehabilitation

Background.– Although the majority of functional activities implicate both upper-limbs, the assessment and rehabilitation of bimanual synergies remain largely neglected following a cerebrovascular accident (CVA). This issue is notably important knowing that more than half of stroke patients suffer from chronic functional limitations concerning mainly manual activities.

Objectives.– Bimanual behavior is primarily characterized by the presence of a spontaneous coupling between the limbs. This coupling is observable via the presence of spatio-temporal interactions between the kinematics of each limb. In stroke patients, many questions remain regarding, on the one hand, the conditions according to which such coupling persists and, on the other hand, how it could be eventually restored. The aim of our study (in progress) is to provide some answers to these questions.

Methods.– The present study is a monocentric prospective cohort. Patients were recruited in their sub-acute phase (> 2 months). They had no major executive functions deficits. Following an initial phase of traditional rehabilitation, patients underwent a specific rehabilitation program for a period of 6 months. The rehabilitation program consists in warming-up unimanual exercises, followed by bimanual exercises designed to stimulate the expression of coupling. It includes also bimanual exercises that were inspired from daily living activities.

Assessment sessions are planned at pre-, mid-, and post-rehabilitation. An additional assessment session is also scheduled following a retention period. Assessments included a kinematic testing wherein kinematic variables were acquired via a digitizer, and a clinical evaluation including functional tests.

Results.– Preliminary results show an alteration in bimanual interactions following stroke, which related to the severity of the lesion. This alteration seems, however, to be more or less reversible following a proper intervention.

Discussion.– We suggest a simple protocol whose aim is to re-establish bimanual coupling and readapt functional synergies involving upper-limbs. Our preliminary results are encouraging and open doors to further investigations.

http://dx.doi.org/10.1016/j.rehab.2012.07.339

CO48-005-e

Interest of a workshop of reeducation of the upper limb on the functional recovery. Preliminary study from 47 hemiplegic patients

H. Jegat [*], É. Azais, É. Lemoigne, B. Nicolas, P. Gallien, J.-F. Aubry, F. Dauvergne
Équipe d'ergothérapie, pôle Saint-Hélier, 54, rue Saint-Hélier, 35000 Rennes, France
**Corresponding author.*
E-mail address: helene.jegat@pole-sthelier.com.

Keywords: Upper limb; AVC; Intensive reeducation

Introduction.– The implementation of "the workshop upper limb" (AMS) bases on the will to propose to the hemiplegic patients of the additional sessions of reeducation leaning on surrounding areas of reeducation the interest of which was demonstrated [1]: increase of the hourly volume, the bimanuelles and functional activities, the repetition of tasks and activities in group.

Objective.– Analyze the profit of the AMS according to certain profiles of hemiplegic patients, as a supplement to the traditional reeducation.

Method.– The criteria of inclusion remained voluntarily wide except the pathology AVC. The AMS is prescribed as additional activity of reeducation to the entrance or during the stay. All the levels of recovery are integrated, rather in premature phase or at least of recovery. The subjects can be included, in day hospital or in complete hospitalization.

Two evaluations are realized with the "functional test for the hemiplegic paretic upper extremity". The initial balance sheet (assessment) (at the beginning of AMS) allows to determine the stage of recovery. The evaluation in 3 weeks (at the end of AMS) allows to measure the possible progress.

Results.– Forty-seven patients (age: 60.7 ± 11 years; sex ratio: 32 H/15 F; hemiplegic side: 25 rights/22 left; hemorrhagic 13/ischemic 34).

On average: 10:30 am of AMS.

The global population progresses of a stage on average with variations of the gain according to the initial stage.

Conclusion.– The study shows a significant gain according to the functional balance assessment for the patients having benefited from the AMS.

But the lack of evaluation adapted to the high stages prevents us from ending on their recovery.

Also without group control we let us not can measure the impact of the AMS on the driving recovery with regard to a traditional reeducation.

Reference

[1] Oujama L, Relave I, Froger J, Mottet D, Pelisser J. Rehabilitation of arm function after a stroke. Lit Rev 2009.

http://dx.doi.org/10.1016/j.rehab.2012.07.340

CO48-006-e

Integration and evaluation of a lexical prediction engine in a virtual keyboard support on text input for people with mobility impairments

S. Pouplin [a,*], J. Robertson [a], J.-Y. Antoine [b], A. Blanchet [c], J.-L. Kahloun [c], P. Volle [d], J. Bouteille [a], D. Bensmail [a]
[a] *Plateforme nouvelles technologies, hôpital universitaire Raymond-Poincaré, 104, avenue Raymond-Poincaré, 92380 Garches, France*
[b] *Laboratoire d'informatique, université François-Rabelais, Tours et Lab-STICC, CNRS, France*
[c] *InVienetis, France*
[d] *IN'TECH INFO, Groupe ESIEA, France*
**Corresponding author.*
E-mail address: samuel.pouplin@rpc.aphp.fr.

Purpose.– Information technologies play a large role in both the social and professional lives of individuals. Text input using assistive devices allowing computer access for disabled people is often slow. The aim of this study was to evaluate the effect of a dynamic on-screen keyboard (custom virtual keyboard [CVK]) and a word prediction system (Sybille) on text input speed in patients with functional tetraplegia.

Methods.– Ten patients tested four modes in their homes (Standard, Standard + Word, Dynamic and Dynamic + Word) for one month before choosing one and continuing to use it for another month.

Results.– The results suggested that the effect of the word prediction system on text input speed was very variable across subjects. Only the patient who used a scanning system appeared to benefit. The same was found for the dynamic keyboard.